Mark Scheme (Results)

Summer 2019

Pearson Edexcel Level 2 Award
In Numberand Measure (ANM20)
Paper 2A + 2B

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NOTES ON MARKING PRINCIPLES

1   All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

2   Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

3   All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

4   Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

5   Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

6   **With working**
If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.
If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.
If there is no answer on the answer line then check the working for an obvious answer.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

7   **Follow through marks**
Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

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Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

8   Ignoring subsequent work
It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct
It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.
Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

9   Parts of questions
Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10   Range of answers
Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1)

Guidance on the use of codes within this mark scheme
M1 – method mark A1 – accuracy mark B1 – Working mark oe – or equivalent cao – correct answer only ft – follow through sc – special case dep – dependent (on a previous mark or conclusion) indep – independent isw – ignore subsequent working

SECTION A

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
1 (a)		2.7	1	B1 cao
(b)		102.3	1	B1 cao
2		3 : 7	2	M1 for 150 : 350 oe or 7 : 3 or 7 and 3 A1 cao
3 (a)		14.56	2	M1 for 14.55(555…) A1 cao
(b)		13.064	1	B1 cao
4		77.49	2	M1 for 8.2 × 2.7 × 3.5 A1 cao
5		160	2	M1 for 800 ÷ 5 A1 cao
6		60	2	M1 for 26 + 24 + 10 A1 cao

Question		Working	Answer	Mark	Notes
7	(a)		68 921	1	B1 cao
	(b)		17	1	B1 cao
	(c)		864	2	M1 for 32 or 27 A1 cao
8			42	2	M1 for 700 × 0.06 oe or 742 or 658 A1 cao
9			15.75	2	M1 for 3.5 × 4.5 oe A1 cao
10			$\dfrac{108}{45}$ or $2\dfrac{2}{5}$ or 2.4	2	M1 for correctly writing fractions as improper fractions eg $\dfrac{27}{5} \div \dfrac{9}{4}$ or $\dfrac{27}{5} \times \dfrac{4}{9}$ or correct conversion into decimals with correct operation shown eg $5.4 \div 2.25$ A1 $\dfrac{108}{45}$ or $\dfrac{36}{15}$ or $\dfrac{12}{5}$ or $2\dfrac{2}{5}$ or 2.4 oe

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
11		Completed Pie chart: 144° 135° 81°	4	M1 for $\frac{400}{1000}\times360\,(=144)$ or $\frac{375}{1000}\times360\,(=135)$ or $\frac{225}{1000}\times360\,(=81)$ or ÷ 2.7(77..) A1 for at least one angle drawn accurately (±2°) or all angles calculated A1 for all angles drawn accurately (±2°) A1 (dep on M1) labels (not angles) or key
12		540	3	M1 for 4500×3÷100 (=135) oe or 4500×4÷100 (=180) or 4635 or 4320 or 4680 M1 for 4500×0.03×4 oe or 5040 or 3960 A1 cao
13	24 = 2×2×2×3 56 = 2×2×2×7 HCF is 2×2×2	8	3	M1 for listing the factors of 24 (at least 4 of 1, 2, 3, 4, 6, 8, 12, 24) **or** 56 (at least 4 of 1, 2, 4, 7, 8, 14, 28, 56) M1 for showing at least one common factor (1, 2, 4, 8) **or** both complete lists A1 cao	M1 for factor trees showing at least 2 factors of both numbers **or** one complete factor tree for 24 or 56 M1 for showing two complete factor trees for 24 and 56 **or** showing 2×2×2×3 or 2×2×2×7

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
14		268.85	4	M1 for use of a pay rate eg 2.80× 48 (=134.40) or 3.20×63 (=201.60) M1 for complete method to find wage: eg 2.80× 48 (=134.40) and 3.20×63 (=201.60) or 336 M1 for deductions eg "336" – 67.15 A1 cao
15		56.5 – 56.6	3	M1 for 2×π×9 or 18×π or statements 2×π×r, π×d oe or π×9 (=28.27..) M1 for 2×3.14×9 or otherwise correct substitution A1 for 56.5 – 56.6
16 (i)		41	4	M1 for intention to divide the face into rectangles and a triangle. M1 for a complete method to find the area of the face (eg 7×7 – 4×4÷2) or (3×7 + 4×3 + 4×4÷2) A1 for 41
(ii)		369		B1 ft for "41" × 9

PAPER: ANM20/2A				
Question	Working	Answer	Mark	Notes
17		35	3	M1 for $972 - 720\ (=252)$ or $\dfrac{252}{720}$ or $\dfrac{972}{720}$ oe M1 for $\dfrac{"252"}{720} \times 100$ oe or sight of 1.35 or $\dfrac{972}{720} - 1$ oe A1 cao
18		226.0 – 226.2	3	M1 for $\pi \times 3^2$ or $\pi \times 3 \times 8$ M1 for $\pi \times 3^2 \times 8$ oe A1 226.0 – 226.2

SECTION B

PAPER: ANM20/2B				
Question	Working	Answer	Mark	Notes
1		−7, −5, −4, −2, 1, 6, 9	1	B1 cao
2		63 , 84	2	M1 for 147 ÷ 7 (=21) or at least 3 other ratios that are multiples of 3 : 4 A1 for 63 and 84 in any order
3		63	3	M1 for 35 ÷ 5 (=7) or 35 × 9 (=315) or 35 × 4 (=140) oe M1 for a complete method eg 35 ÷ 5 × 9 oe or 35 + (35 × 4 ÷ 5) oe A1 cao
4 (a)		40	1	B1 cao accept +40
(b)		−11	1	B1 cao

Question		Working	Answer	Mark	Notes
PAPER: ANM20/2B					
5	(a)		189.77	2	M1 for correct alignment of digits ready for calculation with two operations performed correctly eg 31.22 + 180 (=211.22) or 184.7 – 21.45 (=163.25) or 206.52 – 21.45 (=185.07) A1 cao
5	(b)		129.15	2	M1 for evidence of correctly set up method with correct place value eg carry 4 from 5×9, 9 lots of 14.35 added A1 cao
6	(a)		$\dfrac{7}{12}$	2	M1 for use of a common denominator with at least one correct numerator eg $\dfrac{2}{12}+\dfrac{5}{12}$ or $\dfrac{12}{72}+\dfrac{30}{72}$ oe A1 oe eg $\dfrac{14}{24}$, $\dfrac{42}{72}$
	(b)		$\dfrac{27}{70}$	1	B1 oe

Question	Working	Answer	Mark	Notes
7 (a)		$\dfrac{1}{7}$ of 91 (supported)	3	M1 for 91 ÷ 7 (=13) oe or 96 ÷ 8 (=12) A1 for 13 and 12 A1 (ft dep on M1 and on two figures shown) for conclusion "1/7 of 91"
(b)		$\dfrac{7}{25}$	1	B1 oe
8		420	3	M1 for 350 × 0.2 or 350 ÷ 5 (=70) oe M1 for 350 + "70" or 350 × 1.2 oe or 280 A1 cao
9	$\dfrac{40\times 50}{0.5}=\dfrac{2000}{0.5}$ $\dfrac{42\times 50}{0.5}=\dfrac{2100}{0.5}$	4000 or 4200 or 3920	3	M1 for appropriate rounding of at least two figures: two of 40, 42, 49, 50, 0.5 M1 (dep M1) for rounding and one simple operation correctly performed using appropriately rounded figures eg 80, 100, 2000, 2100 A1 for 4000 or 4200 or 3920 using suitable approximations

Question	Working	Answer	Mark	Notes
PAPER: ANM20/2B				
10		65	2	M1 for $\dfrac{520}{800}$ oe or a complete partitioning method eg 400 is 50%, 200 is 25% etc. A1 cao
11		$4\dfrac{1}{15}$	3	M1 for use of a common denominator with at least one correct numerator eg $\dfrac{10}{15} - \dfrac{9}{15}$ or $\dfrac{17}{3} - \dfrac{8}{5} = \dfrac{85}{15} - \dfrac{24}{15}$ A1 for subtraction of fractions eg $\dfrac{1}{15}$ or $\dfrac{61}{15}$ A1 cao